What is claimed is:

1. An image signal conversion apparatus for converting a first image signal including a plurality of pixel data into a second image signal including a plurality of pixel data, said image signal conversion apparatus comprising:

first data selection means for selecting, from said first image signal, a plurality of first pixel data adjacent to a subject pixel of said second image signal;

class detection means for detecting a class of said subject pixel based on a plurality of said first pixel data selected by said first data selection means;

resolution selection means for selecting a resolution of an image formed from said second image signal; and

pixel data generation means for generating pixel data of said subject pixel corresponding to said class detected by said class detection means and said resolution selected by said resolution selection means.

2. The image signal conversion apparatus according to the claim 1, wherein said pixel data generation means comprises:

coefficient data generation means for generating coefficient data corresponding to said class detected by said class detection means and said resolution selected by said resolution selection means, wherein said coefficient data generation means includes a memory for memorizing said coefficient data of an estimating equation, said coefficient data being previously generated according to every combination of said class detected by said class detection means and said resolution selected by said resolution selection means;

second data selection means for selecting, from said first image signal, a plurality of second pixel data adjacent to a subject pixel of said second image signal; and

calculation means for calculating pixel data of said subject pixel using said

estimating equation based on said coefficient data generated by said coefficient data generation means and a plurality of said second pixel data selected by said second data selection means.

3. The image signal conversion apparatus according to the claim 2, wherein said coefficient data generation means comprises:

first memory section for memorizing coefficient data of said estimating equation, wherein said coefficient data is previously generated according to every combination of said class detected by said class detection means and said resolution selected by said resolution selection means;

first data-reading means for reading coefficient data of each class from said first memory section, said coefficient data of each class corresponding to said resolution selected by said resolution selection means;

second memory section for memorizing coefficient data of each class read by said first data-reading means; and

second data-reading means for reading coefficient data from said second memory section, said coefficient data corresponding to said class detected by said class detection means.

4. The image signal conversion apparatus according to the claim 1, wherein said class detection means detects a level distribution pattern of a plurality of said first pixel data and detects said class of said subject pixel based on said level distribution pattern.

5. The image signal conversion apparatus according to the claim 1, wherein said resolution selection means is comprised so as to select said resolution by operation of pushing grade-up key and grade-down key.

6. The image signal conversion apparatus according to the claim 1, wherein said resolution selection means is composed so as to select said resolution by operation of rotating a knob.

7. The image signal conversion apparatus according to the claim 1, wherein the image signal conversion apparatus further comprises a display means for displaying said resolution selected by said resolution selection means.

8. An image signal conversion method for converting a first image signal including a plurality of pixel data into a second image signal including a plurality of pixel data, said image signal conversion method comprising:

a first step of selecting, from said first image signal, a plurality of first pixel data adjacent to a subject pixel of said second image signal;

a second step of detecting a class of said subject pixel based on a plurality of said first pixel data selected in said first step;

a third step of selecting a resolution of an image formed from said second image signal; and

a fourth step of generating pixel data of said subject pixel corresponding to said class detected in said second step and said resolution selected in said third step.

9. The image signal conversion method according to the claim 8, wherein said fourth step comprises the steps of:

generating said coefficient data corresponding to said class detected in said second step and said resolution selected in said third step;

selecting, from said first image signal, a plurality of second pixel data adjacent to a subject pixel of said second image signal; and

calculating pixel data of said subject pixel using said estimating equation based on said generated coefficient data and a plurality of said selected second pixel data.

10. The image signal conversion method according to the claim 8, wherein in said second step, a level distribution pattern of a plurality of said first pixel data is detected and a class of said subject pixel is detected on the basis of said level distribution pattern.

11. The image signal conversion method according to the claim 8, wherein said image signal conversion method further comprises a fifth step of displaying said resolution selected in said third step.

12. An image display apparatus comprising:

image signal input section for inputting a first image signal including a plurality of pixel data;

image signal conversion means for receiving said first image signal from said image signal input section, converting said first image signal into a second image signal including a plurality of pixel data and outputting said second image signal;

image display means for receiving said second image signal from said image signal conversion means and displaying an image formed from said second image signal; and

resolution selection means for selecting a resolution of said image displayed in said image display means,

wherein said image signal conversion means includes first data selection means for selecting, from said first image signal, a plurality of first pixel data adjacent to a subject pixel of said second image signal, class detection means for detecting a class of said subject pixel based on a plurality of said first pixel data selected by said first data

selection means, and pixel data generation means for generating pixel data of said subject pixel corresponding to said class detected by said class detection means and said resolution selected by said resolution selection means.

13. The image display apparatus according to the claim 12, wherein said pixel data generation means comprises:

coefficient data generation means for generating coefficient data corresponding to said class detected by said class detection means and said resolution selected by said resolution selection means, wherein said coefficient data generation means includes a memory for memorizing said coefficient data of an estimating equation, said coefficient data being previously generated according to every combination of said class detected by said class detection means and said resolution selected by said resolution selection means;

second data selection means for selecting, from said first image signal, a plurality of second pixel data adjacent to a subject pixel of said second image signal; and

calculation means for calculating pixel data of said subject pixel using said estimating equation based on said coefficient data generated by said coefficient data generation means and a plurality of said second pixel data selected by said second data selection means.

14. The image display apparatus according to the claim 12, wherein said class detection means detects a level distribution pattern of a plurality of said first pixel data and detects said class of said subject pixel based on said level distribution pattern.

15. The image display apparatus according to the claim 12, wherein said image display apparatus further comprises display control means for displaying said resolution

selected by said resolution selection means on a screen of said image display means.

16. The image display apparatus according to the claim 12, wherein said image display apparatus further comprises receiving means for receiving a broadcasting signal and obtaining said first image signal from said broadcasting signal.

17. A coefficient data generation apparatus for generating coefficient data of an estimating equation used when a first image signal including a plurality of pixel data is converted into a second image signal including a plurality of pixel data, said coefficient data generation apparatus comprising:

signal processing means for processing an instructive signal corresponding to said second image signal and obtaining an input signal corresponding to said first image signal;

resolution selection means for selecting a resolution of an image formed from said input signal obtained in said signal processing means;

first data selection means for selecting, from said input signal, a plurality of first pixel data adjacent to a subject pixel of said instructive signal;

class detection means for detecting a class of said subject pixel based on a plurality of said first pixel data selected by said first data selection means;

second data selection means for selecting from said input signal a plurality of second pixel data adjacent to a subject pixel of said instructive signal;

normal equation generation means for generating a normal equation for obtaining said coefficient data of each class, on the basis of said class detected by said class detection means, a plurality of said second pixel data selected by said second data selection means and said data of said subject pixel of said instructive signal; and

coefficient data calculation means for obtaining coefficient data of said each class by solving said normal equation.

18. The coefficient data generation apparatus according to the claim 17,

wherein said signal processing means includes a Gaussian filter for obtaining said input signal corresponding to said first image signal by processing of vertical thinning and horizontal thinning said instructive signal; and

wherein said resolution selection means selects said resolution of said image formed from said input signal by selecting standard deviation of said Gaussian filter.

19. A coefficient data generation method for generating coefficient data of an estimating equation used when a first image signal including a plurality of pixel data is converted into a second image signal including a plurality of pixel data, said coefficient data generation method comprising:

a first step of processing an instructive signal corresponding to said second image signal and obtaining an input signal corresponding to said first image signal;

a second step of selecting a resolution of an image formed from said input signal obtained in said first step;

a third step of selecting from said input signal a plurality of first pixel data adjacent to a subject pixel of said instructive signal;

a fourth step of detecting a class of said subject pixel based on a plurality of said first pixel data selected in said third step;

a fifth step of selecting, from said input signal, a plurality of second pixel data adjacent to said subject pixel of said instructive signal;

a sixth step of generating a normal equation for obtaining said coefficient data of each class on the basis of said class detected in said fourth step, a plurality of said second pixel data selected in said fifth step and said data of said subject pixel of said instructive signal; and

a seventh step of obtaining coefficient data of said each class by solving said

normal equation generated in said sixth step.

20. An image signal conversion apparatus for converting a first image signal including a plurality of pixel data into a second image signal including a plurality of pixel data, said image signal conversion apparatus comprising:

first data selection means for selecting, from said first image signal, a plurality of first pixel data adjacent to a subject pixel of said second image signal;

class detection means for detecting a class of said subject pixel based on a plurality of said first pixel data selected by said first data selection means;

information input section for inputting a user identification information;

image quality information obtaining means for obtaining image quality information corresponding to said user identification information input into said information input section; and

pixel data generation means for generating pixel data of said subject pixel corresponding to said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means.

21. The image signal conversion apparatus according to the claim 20, further comprising memory means for previously memorizing a corresponding-relationship between said user identification information and said image quality information,

wherein said image quality information obtaining means obtains said image quality information with reference to said corresponding-relationship memorized in said memory means.

22. The image signal conversion apparatus according to the claim 21, wherein said image signal conversion apparatus further comprises mode modification means for making a test mode for allowing said memory means to memorize said corresponding

relationship between said user identification information and said image quality information thereon.

23. The image signal conversion apparatus according to the claim 20, wherein said pixel data generation means comprises:

coefficient data generation means for generating coefficient data corresponding to said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means, wherein said coefficient data generation means includes a memory for memorizing said coefficient data of an estimating equation, said coefficient data being previously generated according to every combination of said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means;

second data selection means for selecting, from said first image signal, a plurality of second pixel data adjacent to a subject pixel of said second image signal; and

calculation means for calculating pixel data of said subject pixel using said estimating equation based on said coefficient data generated by said coefficient data generation means and a plurality of said second pixel data selected by said second data selection means.

24. The image signal conversion apparatus according to the claim 23, wherein said coefficient data generation means comprises:

first memory section for memorizing coefficient data of said estimating equation previously generated according to every combination of said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means;

first data reading means for reading from said first memory section the

coefficient data of each class corresponding to the image quality information obtained from said image quality information obtaining means;

second memory section for memorizing the coefficient data of each class read by said first data reading means; and

second data reading means for reading from said second memory section the coefficient data corresponding to said class detected by said class detection means.

25. An image signal conversion method for converting a first image signal including a plurality of pixel data into a second image signal including a plurality of pixel data, said image signal conversion method comprising:

a first step of selecting, from said first image signal, a plurality of first pixel data adjacent to a subject pixel of said second image signal;

a second step of detecting a class of said subject pixel based on a plurality of said first pixel data selected in said first step;

a third step of obtaining image quality information corresponding to input user identification information; and

a fourth step of generating pixel data of said subject pixel corresponding to said class detected in said second step and said image quality information obtained in said third step.

26. The image signal conversion method according to the claim 25, wherein said fourth step comprises the steps of:

generating said coefficient data corresponding to said class detected in said second step and said image quality information obtained in said third step;

selecting from said first image signal a plurality of second pixel data adjacent to a subject pixel of said second image signal; and

calculating pixel data of said subject pixel using said estimating equation on

the basis of said generated coefficient data and a plurality of said selected second pixel data.

27. An image display apparatus comprising:

image signal input section for inputting a first image signal including a plurality of pixel data;

image signal conversion means for receiving said first image signal from said image signal input section, converting said first image signal into a second image signal including a plurality of pixel data, and outputting said second image signal;

image display means for receiving said second image signal from said image signal conversion means and displaying an image formed from said second image signal;

user identification means for identifying the user; and

image quality information obtaining means for obtaining image quality information corresponding to identification identified by said user identification means,

wherein said image signal conversion means includes first data selection means for selecting, from said first image signal, a plurality of first pixel data adjacent to a subject pixel of said second image signal, class detection means for detecting a class of said subject pixel based on a plurality of said first pixel data selected by said first data selection means, and pixel data generation means for generating pixel data of said subject pixel corresponding to said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means.

28. The image display apparatus according to the claim 27, wherein said user identification means comprises an image identification apparatus.

29. The image display apparatus according to the claim 27, wherein said pixel data generation means comprises:

coefficient data generation means for generating coefficient data corresponding to said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means, wherein said coefficient data generation means includes a memory for memorizing said coefficient data of an estimating equation, said coefficient data being previously generated according to every combination of said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means;

second data selection means for selecting, from said first image signal, a plurality of second pixel data adjacent to a subject pixel of said second image signal; and

calculation means for calculating pixel data of said subject pixel using said estimating equation based on said coefficient data generated by said coefficient data generation means and a plurality of said second pixel data selected by said second data selection means.

30. An image signal conversion apparatus for converting a first image signal including a plurality of pixel data into a second image signal including a plurality of pixel data, said image signal conversion apparatus comprising:

first data selection means for selecting, from said first image signal, a plurality of first pixel data adjacent to a subject pixel of said second image signal;

class detection means for detecting a class of said subject pixel based on a plurality of said first pixel data selected by said first data selection means;

information input section for inputting display-device-information including first identification information showing at least a kind of image display device;

image quality information obtaining means for obtaining image quality

information corresponding to said first identification information included in said display-device-information received from said information input section; and

pixel data generation means for generating pixel data of said subject pixel corresponding to said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means.

31. The image signal conversion apparatus according to the claim 30, further comprising memory means for previously memorizing a corresponding-relationship between said first identification information and said image quality information,

wherein said image quality information obtaining means obtains said image quality information with reference to said corresponding-relationship memorized in said memory means.

32. The image signal conversion apparatus according to the claim 30, wherein said pixel data generation means comprises:

coefficient data generation means for generating coefficient data corresponding to said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means, wherein said coefficient data generation means includes a memory for memorizing said coefficient data of an estimating equation, said coefficient data being previously generated according to every combination of said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means;

second data selection means for selecting, from said first image signal, a plurality of second pixel data adjacent to a subject pixel of said second image signal; and

calculation means for calculating pixel data of said subject pixel using said estimating equation based on said coefficient data generated by said coefficient data

generation means and a plurality of said second pixel data selected by said second data selection means.

33. The image signal conversion apparatus according to the claim 32, wherein said coefficient data generation means comprises:

first memory section for memorizing coefficient data of said estimating equation previously generated according to every combination of said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means;

first data-reading means for reading from said first memory section the coefficient data of each class corresponding to the image quality information obtained from said image quality information obtaining means;

second memory section for memorizing the coefficient data of each class read by said first data reading means; and

second data-reading means for reading from said second memory section the coefficient data corresponding to said class detected by said class detection means.

34. The image signal conversion apparatus according to the claim 30, wherein said image signal conversion apparatus further comprises display device control means for outputting a command for allowing an image-quality-adjustment-function to be invalid, said image-quality-adjustment-function becoming invalid when said display-device-information input into said information input section includes second identification information showing that said image-quality-adjustment-function exists.

35. The image signal conversion apparatus according to the claim 30, wherein said image signal conversion apparatus further comprises:

connection detection means for detecting a connection of an image display

device for supplying said second image signal; and

display device control means for sending a command to said image display device when a connection of said image display device is detected by said connection detection means, said command requesting said image display device to send display-device-information.

36. An image signal conversion method for converting a first image signal including a plurality of pixel data into a second image signal including a plurality of pixel data, said image signal conversion method comprising the steps of:

selecting, from said first image signal, a plurality of first pixel data adjacent to a subject pixel of said second image signal;

detecting a class of said subject pixel based on a plurality of said selected first pixel data;

inputting display-device-information including first identification information showing at least a kind of image display device;

obtaining image quality information corresponding to said first identification information included in said input display-device-information; and

generating pixel data of said subject pixel corresponding to said detected class and said obtained image quality information .

37. The image signal conversion method according to the claim 36, wherein said step of generating pixel data of said subject image pixel includes:

a step of generating said coefficient data corresponding to said detected class and said obtained image quality information;

a step of selecting from said first image signal a plurality of second pixel data adjacent to a subject pixel of said second image signal; and

a step of calculating pixel data of said subject pixel using said estimating

equation based on said generated coefficient data and a plurality of said selected second pixel data.

38. The image signal conversion method according to the claim 36, wherein said image signal conversion method further comprises a step of outputting a command for allowing an image-quality-adjustment-function to be invalid, said image-quality-adjustment-function becoming invalid when said input display-device-information includes second identification information showing that said image-quality-adjustment-function exists.

39. The image signal conversion method according to the claim 36, wherein said image signal conversion method further comprises a step of outputting a command for requesting said image display device to send back said display-device-information when said image display device for supplying said second image signal is connected.

40. An image display apparatus comprising:

an image signal input section for inputting a first image signal including a plurality of pixel data;

image signal conversion means for receiving said first image signal from said image signal input section, converting said first image signal into a second image signal including a plurality of pixel data, and outputting said second image signal; and

image display device for receiving said second image signal from said image signal conversion means and displaying an image formed from said second image signal,

wherein said image display device includes memory means for memorizing display-device-information including a first identification information showing a kind of image display device at least, and information sending means for sending said

display-device-information memorized in said memory means to said image signal conversion section, and

wherein said image signal conversion means includes first data selection means for selecting, from said first image signal, a plurality of first pixel data adjacent to a subject pixel of said second image signal, class detection means for detecting a class of said subject pixel based on a plurality of said first pixel data selected by said first data selection means, information receiving means for receiving said display-device-information sent from said image display device, image quality information obtaining means for obtaining image quality information corresponding to said first identification information included in said display-device-information received by said information receiving means, and pixel data generation means for generating pixel data of said subject pixel corresponding to said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means.

41. The image display apparatus according to the claim 40, wherein said image signal conversion section further comprises memory means for previously memorizing a corresponding-relationship between said first identification information and said image quality information, and

wherein said image quality information obtaining means obtains said image quality information with reference to said corresponding-relationship memorized in said memory means.

42. The image display apparatus according to the claim 40, wherein said pixel data generation means comprises:

coefficient data generation means for generating coefficient data corresponding to said class detected by said class detection means and said image quality information

obtained from said image quality information obtaining means, wherein said coefficient data generation means includes a memory for memorizing coefficient data of an estimating equation, said coefficient data being previously generated according to every combination of said class detected by said class detection means and said image quality information obtained from said image quality information obtaining means;

second data selection means for selecting, from said first image signal, a plurality of second pixel data adjacent to a subject pixel of said second image signal; and

calculation means for calculating pixel data of said subject pixel using said estimating equation based on said coefficient data generated by said coefficient data generation means and a plurality of said second pixel data selected by said second data selection means.

43. The image display apparatus according to the claim 40, wherein said image signal conversion section further comprises command sending means for sending a command to said image display device when said image display device is connected, said command requesting said image display device to send back said display-device-information, and

wherein said image display device further comprises command receiving means for receiving said command sent from said image signal conversion section, and control means for controlling said information sending means so as to send said display-device-information to said image signal conversion section based on said command received by the relevant command receiving means.

44. The image display apparatus according to the claim 40, wherein said image signal conversion section further comprises command sending means for sending a command for allowing an image-quality-adjustment-function to be invalid, said image-

quality-adjustment-function becoming invalid when said display-device-information received in said information receiving means includes second identification information showing that said image-quality-adjustment-function exist, and

wherein said image display device further comprises command receiving means for receiving a command for allowing said image-quality-adjustment-function sent from said image signal conversion section to be invalid, and control means for allowing image-quality-adjustment-function to be invalid based on said command received by the relevant command receiving means.